

**REMARKS**

By the foregoing amendment, claims 1-20 have been amended, and claims 21-25 have been newly added. Applicants submit that no new matter has been added. Support for the amendments can be found throughout the specification and, e.g., as follows:

*Claim 1:* page 5, line 28 to page 6, line 6; page 10, lines 15 to 22; page 20, line 7 to page 21, line 15; page 23, lines 12 to 16; page 35, lines 16 to 24; and page 41, line 21 to page 42, line 10; and Figure 3;

*Claim 2:* page 11, lines 28 to 31; page 15, line 28 to page 16, line 1; page 21, lines 4 to 8;

*Claim 3:* page 25, line 27 to page 26, line 22; Examples 2 and 3; and Figures 9 and 10;

*Claim 4:* page 16, lines 18 to 26; page 24, line 30 to page 25, line 27; Example 1; and Figures 7 and 8;

*Claim 5:* page 37, line 11 to page 39, line 20; Examples 4 and 7; and Figures 11 and 14;

*Claim 6:* page 18, lines 14 to 28; and page 23, lines 16 to 22;

*Claim 7:* page 18, lines 14 to 28; and page 23, lines 16 to 22;

*Claim 8:* page 13, line 19 to page 15, line 14; and page 18, line 29 and page 19, line 9;

*Claim 9:* page 37, line 19 to page 38, line 17;

*Claim 10:* page 21, lines 16 to 25; page 22, lines 19 to 27; page 24, lines 6 to 22;

*Claim 11:* page 21, line 9 to page 22, line 10;

*Claim 12:* page 7, lines 22 to 25; page 18, lines 14 to 28; and page 23, lines 16 to 22;

*Claim 13:* page 7, lines 22 to 25; page 13, line 19 to page 15, line 14; and page 18, line 29 to page 19, line 9;

*Claim 14:* page 21, line 16 to page 22, line 1; page 46, lines 1 to 20;

*Claim 15:* page 21, line 9 to page 22, line 10;

*Claim 16:* page 8, lines 14-16; page 21, lines 16 to 25; page 24, lines 11 to 29;

*Claim 17:* page 21, line 1 to 8;

*Claim 18:* page 6, lines 19 to 23; page 31, line 27 to page 33, line 7;

*Claim 19:* page 6, lines 19 to 23; page 31, line 27 to page 33, line 7;

*Claim 20:* page 29, lines 6 to 13; page 34, lines 5 to 10; page 40, lines 17 to 30; page 41, lines 29 to 31;

*Claim 21:* page 29, lines 14 to 20; page 49, lines 1 to 15;

*Claim 22:* page 29, lines 14 to 20; page 33, line 25 to page 34, line 10; page 41, lines 29 to 31; and

*Claim 23:* page 31, line 27 to page 32, line 10; page 38, line 28 to page 39, line 5; page 39, line 29 to page 40, line 16.

Entry of the above amendment is respectfully requested.

## **Priority**

Applicants thank the Examiner for acknowledging Applicants' claim to foreign priority based on Japanese Application No. 2002-64994.

## **Drawings**

Applicants also thank the Examiner for acknowledging receipt of Applicants' drawings, filed September 10, 2004, and for indicating acceptance of the same.

**Information Disclosure Statement**

Applicants thank the Examiner for acknowledging receipt of the Information Disclosure Statements filed September 15, 2008; May 13, 2008; November 16, 2006; August 29, 2006; and December 6, 2005, and for returning electronically signed copies of the Forms PTO-1449 submitted therein. Furthermore, Applicants note that supplemental Information Disclosure Statements were filed March 2, 2009 and April 24, 2009. Applicants respectfully request the Examiner to indicate consideration thereof with the next Official communication in the present application.

**Claim Objections**

The Office Action objects to claim 1 as allegedly grammatically incorrect.

In response, Applicants submit that the instant amendment is responsive to the present claim objection, and respectfully request withdrawal of the same.

**Claim Rejections – 35 U.S.C. § 112, Second Paragraph**

The Office Action rejects claims 1-3, 6, 7, 8, and 12-20 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. In particular, the Office Action alleges that claims 1-3 are unclear because they do not result in the generation of a network or the output of any information resembling a molecule-function network. Claims 6-8 and 12-20 are allegedly indefinite for allegedly not setting forth any steps involved in the method/process.

In response, and without acquiescing to the propriety of the instant rejections, Applicants submit that the instant amendment is responsive to the present rejections under 35 U.S.C. § 112, second paragraph, and respectfully request reconsideration and withdrawal of the same.

**Claim Rejections – 35 U.S.C. § 101**

The Office Action rejects claims 1-20 under 35 U.S.C. § 101, as allegedly drawn to non-statutory subject matter. In particular, the Office Action alleges that the claims are not tied to a particular machine or apparatus. The Office Action also alleges that the claims are not drawn to an invention which transforms a particular article into a different state or thing. The Office Action further states that “[t]his rejection could be overcome by amendment of the claims to recite that a result of the process is outputted to a display, outputted to a user, outputted to a physical storage device, or outputted in a graphical format, or outputted in a user readable format, or by including a result that is a physical transformation” (Office Action at page 6, first paragraph).

In response, and without acquiescing to the propriety of the rejection under 35 U.S.C. § 101, Applicants submit that the instant amendment is responsive to the present rejection. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 101.

**Claim Rejections – 35 U.S.C. § 102(b)**

The Office Action rejects claims 1-3 under 35 U.S.C. 102(b) as allegedly anticipated by Winslow et al. (WO 00/65523; hereinafter “WINSLOW”). In particular, the Office Action asserts that WINSLOW teaches *inter alia* a method and database for generating a data structure, wherein the database contains biological information and is used to generate a data structure that is associated with hierarchical information related to cellular function.

In response, and without acquiescing to the propriety of the present rejection, Applicants submit that the instant amendment is responsive to the present rejection under 35 U.S.C. § 102(b). Applicants further submit that the claimed invention is not anticipated by WINSLOW.

Applicants note that the claimed invention is drawn to “[a] method of generating and displaying a molecule network by a computer wherein:

using a database comprising information on biomolecule pairs and information on bio-events which correlates a bio-event to a biomolecule or a biomolecule pair which causes the bio-event, the computer searches information on biomolecule pairs for generating information on contiguous linkages of molecules wherein the number of the linkages is within a designated number, starting the search from a biomolecule designated by a user from biomolecules contained in a first molecule network representing linkages of molecules;

based on the information on biomolecule pairs obtained by the search, the computer generates and displays a second molecule network comprising the first molecule network and information on contiguous linkages of molecules which starts from the biomolecule designated by the user; and

the computer further searches and displays information on bio-events correlated to biomolecules or biomolecule pairs contained in the second molecule network.” In particular, Applicants submit that the claimed method includes a step of generating and displaying a second molecule network comprising the first molecule network and information on contiguous linkages of molecules which starts from the biomolecule designated by the user. Applicants submit that WINSLOW does not anticipate the claimed invention at least because WINSLOW does not disclose this step, or the generation of the second molecule network.

**Claim Rejections – 35 U.S.C. § 103(a)**

The Office Action rejects claims 1-20 under 35 U.S.C. 103(a) as allegedly being unpatentable over WINSLOW in view of Itai et al. (US Patent Application Pub. No. 2004/0024772; hereinafter “ITAI”).

In particular, the Office alleges that WINSLOW teaches *inter alia* a method and database for generating a data structure, wherein the database contains biological information and is used to generate a data structure that is associated with hierarchical information related to cellular function. The Office Action concedes that WINSLOW fails to teach filtering data by setting a condition to data items including relational code or directionality of biomolecules, as in claims 4-6. The Office Action further concedes that WINSLOW fails to teach scoring a network based on one or more data items using relational code or directionality of biomolecules, as in claims 9-11. For these missing features the Office relies upon ITAI.

So that the record is clear, Applicants note that ITAI (US 2004/0024772) is the U.S. National Stage of PCT/JP01/07830, which was published in Japanese. Accordingly, ITAI is not entitled to any 102(e) date. Applicants further note that US 2004/0024772 was published after Applicants' effective filing date of March 11, 2003. Therefore US 2004/0024772 is not prior art. Applicants further note that PCT/JP01/07830 was published as WO 02/23395 on March 21, 2002, and thus WO 02/23395 is the only citable family member.

Nevertheless, and without acquiescing to the propriety of the present rejection, Applicants submit that the instant amendment is responsive to the present rejection under 35 U.S.C. § 103(a). Even assuming, *arguendo*, that ITAI is citable as prior art, Applicants further submit that the claimed invention is not unpatentable over WINSLOW in view of ITAI. Applicants note that the claimed invention recites a method of generating and displaying a

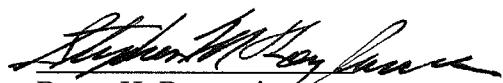
molecule network by a computer as set forth above. In particular, Applicants submit that the claimed method includes a step of generating and displaying a second molecule network comprising the first molecule network and information on contiguous linkages of molecules which starts from the biomolecule designated by the user. Applicants submit that WINSLOW and ITAI, either alone or in combination, fail to teach or fairly suggest the claimed invention at least because the cited documents fail to disclose or suggest this step, or the generation of the second molecule network.

### **CONCLUSION**

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow all the pending claims. No additional fee is believed due at this time. However, Applicants hereby authorize the Office to charge any necessary fees, including extension of time fees required to maintain the pendency of the application to Deposit Account No. 19-0089.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully Submitted,  
Nobuo TOMIOKA et al.



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